REMARKS

No claims are amended, canceled, or added. Accordingly, after entry of this Amendment, claims 1-10 will remain pending.

In the Final Office Action dated May 22, 2009, the Examiner acknowledged receipt and considered the Information Disclosure Statement filed on March 3, 2009. The Applicant would like to thank the Examiner for this indication.

In the Final Office Action, the Examiner rejected claims 1-7, 9, and 10 under 35 U.S.C. § 103(a) as being unpatentable over Aurich et al. (U.S. Patent No. 6,991,301) in view of Mayer et al. (U.S. Patent No. 6,945,611) and Balch et al. (U.S. Patent Application Publication No. 2001/0035049). Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Aurich et al. in view of Mayer et al., Balch et al., and Hollandsworth et al. (U.S. Patent Application Publication No. 2005/0099061). The Applicant respectfully disagrees with these rejections and, therefore, respectfully traverses the same.

With respect to these rejections, the Applicant notes that Balch et al. is newly-cited against the claims in this application. Accordingly, the Applicant respectfully relies upon the discussion of Aurich et al., Mayer et al., and Hollandsworth et al. as set forth in the March 3, 2009 Amendment. The Applicant provides additional commentary with respect to these three references below, to the extent helpful to the instant discussion.

The Applicant respectfully submits that claims 1-10 are patentably distinguishable from the references cited by the Examiner because they recite a brake system that combines a number of elements including, among them, speed sensors provided on some of the axles of a vehicle bogie, where the sensors measure the speed of rotation of the respective axle, where the speed sensors provide data to a processor that communicates with a brake control unit via a databus, where the data processor is provided with local intelligence so as to permit individual control of brake pressure on each axle or bogie or car, and where the speed sensors sample the axle speed in intervals of greater than 10 ms. None of the references describes or suggests such a combination of features. As a result, the references cannot be relied upon to render obvious any of claims 1-10.

As a preliminary matter, the Applicant respectfully notes that railway vehicles often include one or both (usually both) of a dynamic braking system and a friction braking system. A dynamic braking system refers to a system where an inverse current is applied to one or more electric drive motors to provide reverse-propulsive power to the vehicle (i.e., to retard or limit forward motion). Friction braking refers typically to the type of braking where

pneumatic pressure is applied to a brake shoe (or other similar element) to generate friction between the brake shoe and a surface (such as a wheel), thereby slowing or stopping the vehicle. While both of these systems are referred to as "braking" systems, they are quite different from one another, as should be apparent to those skilled in the art.

With respect to the present patent application, the brake system involves the application of pneumatic signals and is, therefore, a friction braking system. (See, e.g., the Specification at page 3, line 17.) The brake system is described as including brake valves through which the pneumatic brake pressure (i.e., air) is applied. (See, e.g., the Specification at page 3, line 20 and line 22.)

In contrast, Balch et al. describes dynamic braking. As discussed in the reference, the propulsion system 10 includes a variable speed prime mover 11 (e.g., a diesel engine) mechanically coupled to a rotor of a dynamo electric machine 12 comprising a 3-phase alternating current (AC), synchronous generator or alternator. (Balch et al. at col. 2, lines 10-15.) The AC power is electrically coupled in energizing relationship to each of a plurality of adjustable AC traction motors 25-28. (Balch et al. at col. 2, lines 25-27.) The controller 24 may control the traction motors 25-28 in a dynamic braking mode (referred to as DB in step 100). (See, e.g., Balch et al. at col. 3, lines 60-67.)

In Balch et al., there is no discussion of friction braking. Accordingly, the Applicant respectfully submits that Balch et al. does not discuss, among other things, a system where a data processor is provided with local intelligence so as to permit individual control of brake pressure on axles or bogies or cars. As a result, the Applicant respectfully submits that Balch et al. cannot be combined with any of the remaining references to render obvious any of the claims in the present patent application. Simply, because Balch et al. concerns dynamic and not frictional braking, those skilled in the art would not combine Balch et al. with any references directed to frictional braking, like Aurich et al., Mayer et al., and Hollandsworth et al.

In fashioning the rejection of the claims, the Examiner noted that Aurich et al. and Mayer et al. collectively fail to provide any discussion of axle speed sensors with a sampling time of greater than 10 ms. The Examiner relied on Balch et al. for this feature. Since Balch et al. describes dynamic braking, which is inherently different from active braking, the Applicant respectfully submits that the disclosure in Balch et al. cannot be combined properly with Aurich et al. or with Mayer et al. to render obvious any of the claims in the present

patent application. As a result, the Applicant respectfully submits that the rejection should be withdrawn.

As noted in the specification at page 1, known frictional braking systems (*i.e*, the prior art) utilize a sampling cycle of 10 ms, "which requires a significant amount of resources, back to the brake control unit, which is usually located on the vehicle drive unit." (The Specification at page 1, lines 15-17.) "Due to the speed at which such signals can be transmitted, in known systems the axle speed is typically sampled at 10 ms intervals for the wheel slide protection to be effective." (The Specification at page 3, lines 17-19.) With respect to the present invention, the "introduction of local or distributed control of the brake pressure permits a much slower cycle time to be used and it is possible to match the performance of wheel slide protection using cycles ***an order of magnitude longer***." (The Specification at page 3, lines 19-21 (emphasis added).)

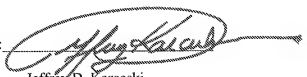
As noted in the Amendment filed on March 3, 2009, Aurich et al. does not describe a brake system where the speed sensors sample the axle speed in intervals of greater than 10 ms. Mayer et al. also fails to describe a brake system where the speed sensors sample the axle speed in intervals of greater than 10 ms. Hollandsworth et al. is similarly deficient. As argued in the March 3, 2009 Amendment, those skilled in the art would not be motivated to employ a sampling rate for a sensor greater than 10 ms, because a 10 ms interval is common in the industry. As a result, using a lower sampling rate, *i.e.* a sampling rate with a greater interval, would not be within the level of ordinary skill in the art. To the contrary, it is postulated that one skilled in the art might be motivated to use an interval of shorter than 10 ms to increase the sampling rate and, thereby, to increase the accuracy of any processes relying on the sampled data. A longer interval ($\geq$10ms) is antithetical to this hypothesis.

Each of the rejections having been addressed, the Applicant respectfully requests that the Examiner withdraw the rejections of the claims and pass this application quickly to issuance.

If there are any fees required for this submission that are not otherwise accounted for, please charge Deposit Account No. 02-1010. In addition, please credit any overpayments to the same Deposit Account.

Respectfully submitted,

BARNES & THORNBURG LLP

By: 

Jeffrey D. Karceski
Reg. No: 35,914
Tel. No.: (202) 371-6359
Fax No.: (202) 289-1330

Date: **August 19, 2009**
Barnes & Thornburg LLP
750 17th Street, NW Ste. 900
Washington, DC 20002

Customer No. **23646**